

OrfZ 1 MEWEEIYKEKLVTAEKAVSKIENHSRVVFAHAVGEPVDLVNALVKNKDN YIGLEIVHMVA

M*W IY **

4HBCT MDWKKIYEDRT

OrfZ 61 MGKGVYTKEGMQRHERHNALFVGGSTRDAVNSGRAVYTPCFYEVPSLFKEKRLPVDVAL

OrfZ 121 IQVSEPDKYGYCSFGVSN DYTKPAAESAKLVIAEVNKNMPRTLGDSEFIHVSDIDYIVEAS

OrfZ 181 HPLLELQPPKLG DVEKAIGENCASLIEDGATLQLGIGAI PD AVLFLKNKKNLGIHSEMI

OrfZ 241 SDGVMELVKAGVINNNKKTLHPGKI VVTFMLGTTKKLYDFVNNNPMVETYSVDYVNNPLVI

OrfZ 301 MKNDNMV SINS CVQVDLMGQVCSESIGLKQISGVGGQVDFIRGANLSKGGKAI IAI PSTA

AIIA PS A

4HBCT AIIAMPSVA

OrfZ 361 GKGVSRITP LLDTGAAVTTSRNEVDYVVT EYGV A HLKGT LNRARALINIAHPKFR ES

N**DYVVT EYG A K ALINIAHP F**

4HBCT K NDADYVVT EYGIAEMK ALINIAHPDFKDE

OrfZ 421 LMNEFKKRF

L

4HBCT LK

FIG. 1A

FIG. 1B

The sequence of the orfZ gene from *C. kluyveri* is:

ATGGAGTGGGAAGAGATATATAAAGAGAAACTGGTAACTGCAGAAAAGCTGT
TTCAAAAATAGAAAACCATAGCAGGGTAGTTTTCACATGCAGTAGGAGAACC
CGTAGATTAGTAAATGCACCTAGTTAAAAATAAGGATAATTATATAGGACTAGA
AATAGTTCACATGGTAGCTATGGGCAAAAGGTATATACAAAAGAGGGTATGC
AAAGACATTTTAGACATAATGCTTTTGTGTAGCGGATCTACTAGAGATGCAG
TAAATTCAGGAAGAGCAGTTTATACACCTTGTTTCTATGAAGTGCCCAAGTTT
GTTTAAAGAAAACGTTTGCCCTGTAGATGTAGCACCTTATTCAGGTAAGTGAGCC
AGATAAAATATGGCTACTGCAGTTTTCAGGTTTCCCAATGACTATACCAAGCCAGC
AGCAGAAAGTGCTAAGCTTGTAATTGCAGAAAGTGAATAAAAACATGCCAAGAA
CTCTTGGAGATTCTTTTATACATGTATCAGATATTGATTATATAGTGAAGCTTC
ACACCCATTGTTAGAAATTGCAGCCCTCCTAAATTGGGAGATGTAGAAAAGCCAT
AGGAGAAAACGTGTCATCTTTAAATTGAAGATGGAGCTACTCTTCAGCTTGGAAT
AGGTGCTATACCAGATGCGGTACTTTTATTCTTAAAGAACAAAAGAAATTAGG
AATACATTCTGAGATGATATCAGATGGTGTGATGGAACCTGGTGAAGGCAGGGG
TTATCAATAACAAGAAAAGACCCCTCCATCCAGGCCAAAATAGTTGTAACATTTT

FIG. 1C

AATGGGAACAAAAAATTATATGATTTTGTAAACAATAATCCAATGGTAGAAAC
TTATTCTGTAGATTATGTAAATAATCCACTGGTAATTATGAATAATGACAAATATG
GTTTCAATAAATTCTTGTGTTCAAGTAGACTTAATGGGACAAGTATGTTCTGAAA
GTATAGGATTGAACACAGATAAGTGGAGTGGAGGCCAGGTAGATTTTATTAGA
GGAGCTAATCTATCAAGGGTGGAAAGGCTATTATAGCTATACCTTCCACAGCT
GGAAAGGAAAGTTTCAAGAAATAACTCCACTTCTAGATACTGGTGCTGCAGTT
ACAACTTCTAGAAATGAAGTAGATTATGTAGTTACTGAATATGGTGTGCTCATC
TTAAGGGCAAACTTTAAGAAATAGGGCAAGAGCTCTAATAAATATCGCTCATC
CAAAATTCAGAGAAATCATTAATGAATGAATTTAAAAAGAGATTTTAG

FIG. 1D

The sequence of the orfZ gene product is:

MEWEEITYKEKLVTAEKAVSKIENHSRVVFAHAVGEPVDLVNALVKNKDNYIGLEI
VHMVAMGKGVYTKEGMQRHFHNALFVGSTRDAVNSGRAVYTPCFYEVP
FKEKRLPVDVALIQVSEPDKYGYCSFGVSN DYTKPAESA KLVIAEVNKNMPRTL
GDSEFIHVSDIDYIVEASHPLLELQPPKLG DVEKAIGENCASLIEDGATLQLGAI
PD
AVLLFLKNKKNLGIHSEMI SDGVMELVKAGVINNKKKTLHPGKI VVTF
LMGTTK
LYDFVNNPMVETYSVDYVNNPLVIMKNDNMV SINSVCVQVDLMGQVCSE
SIGLK
QISGVGGQVDFIRGANLSKGGKAILAIPSTAGKGVSRITP LLDTGAAV
TTSRNEVD
YVVTEYGV AHLKGKTLNRARALINIAHPKFRESLMNEFKKRF*

Neither the sequence of the hbct gene from C.
aminobutyricum nor the complete amino acid sequence of the
corresponding enzyme is known.

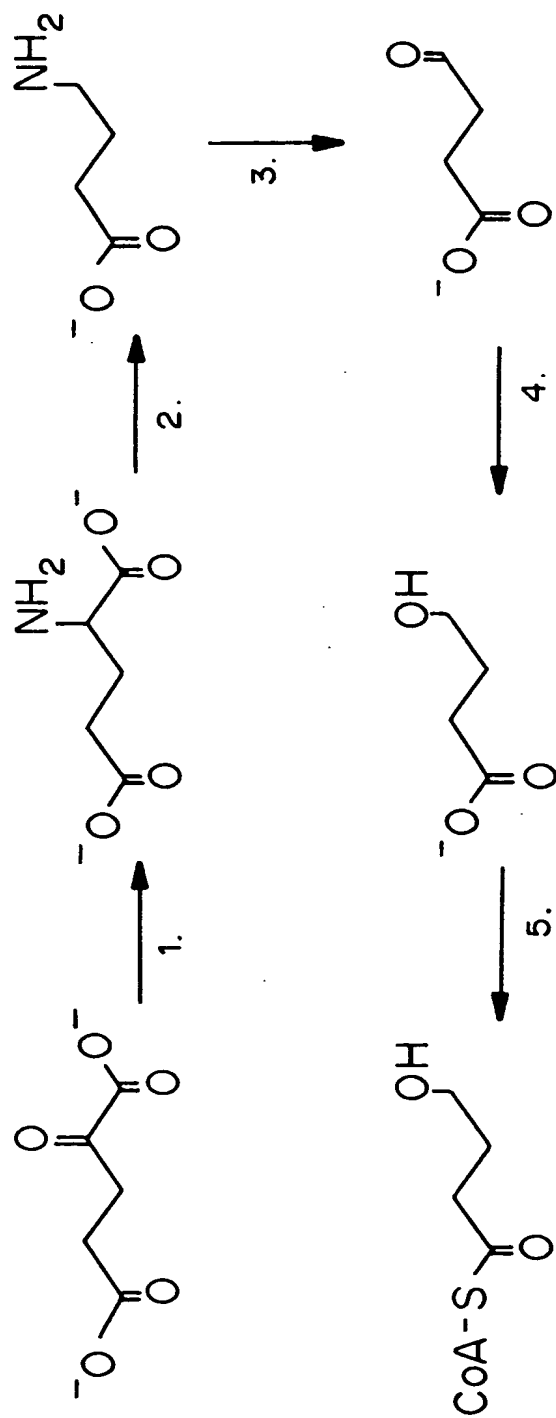
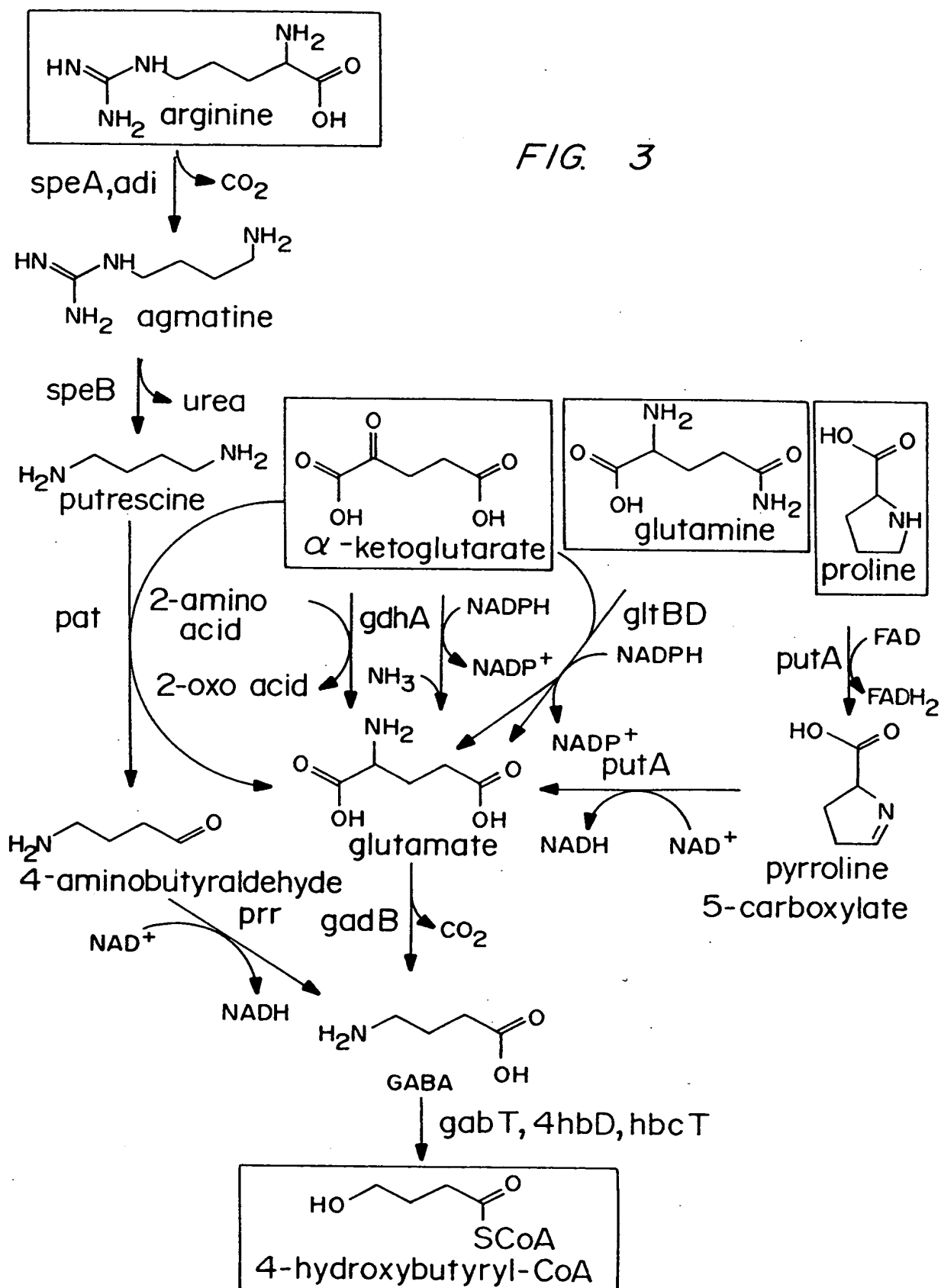


FIG. 2



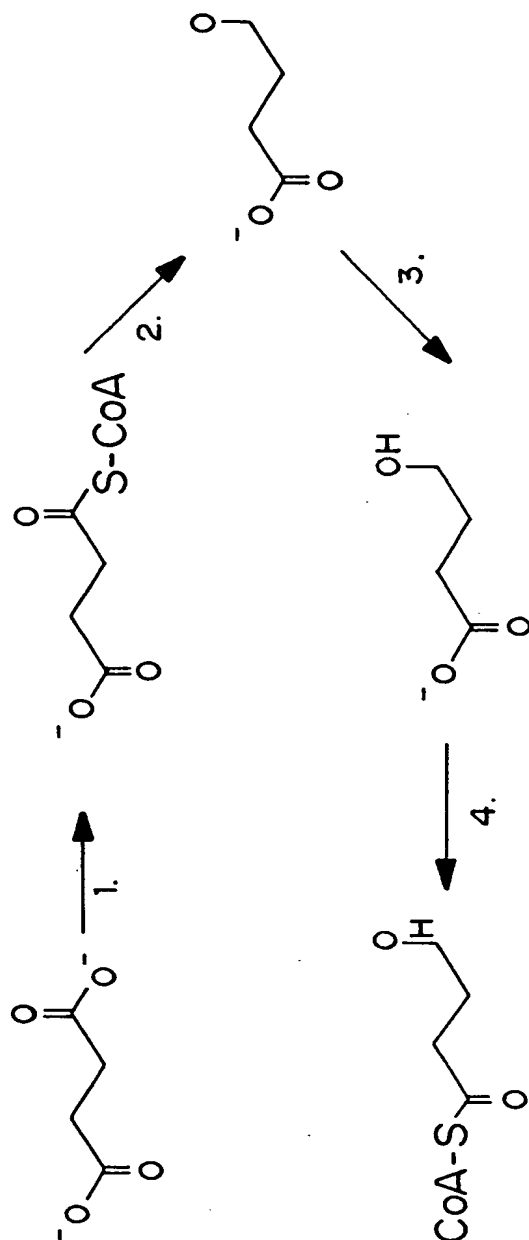


FIG. 4

FIG. 5

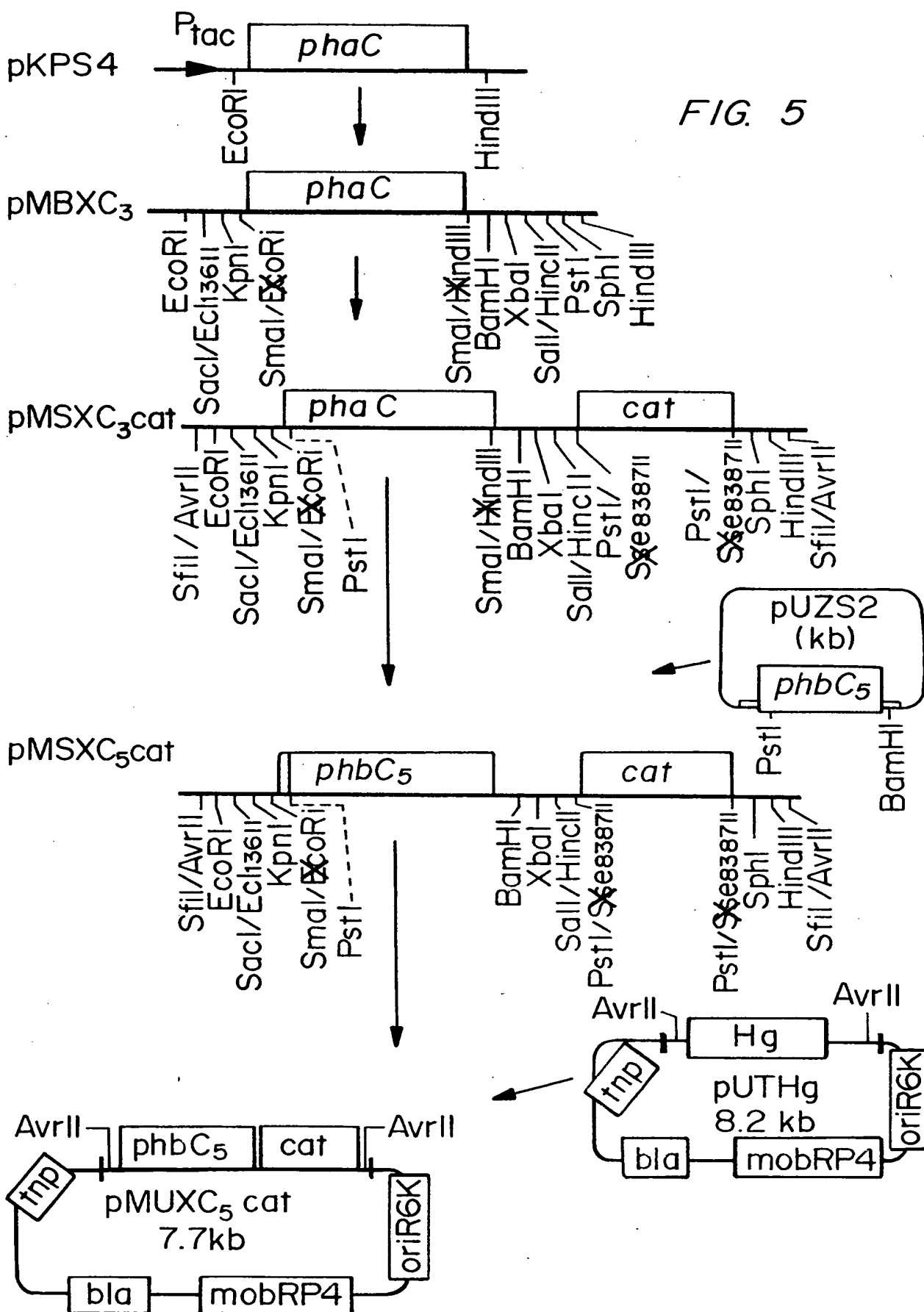
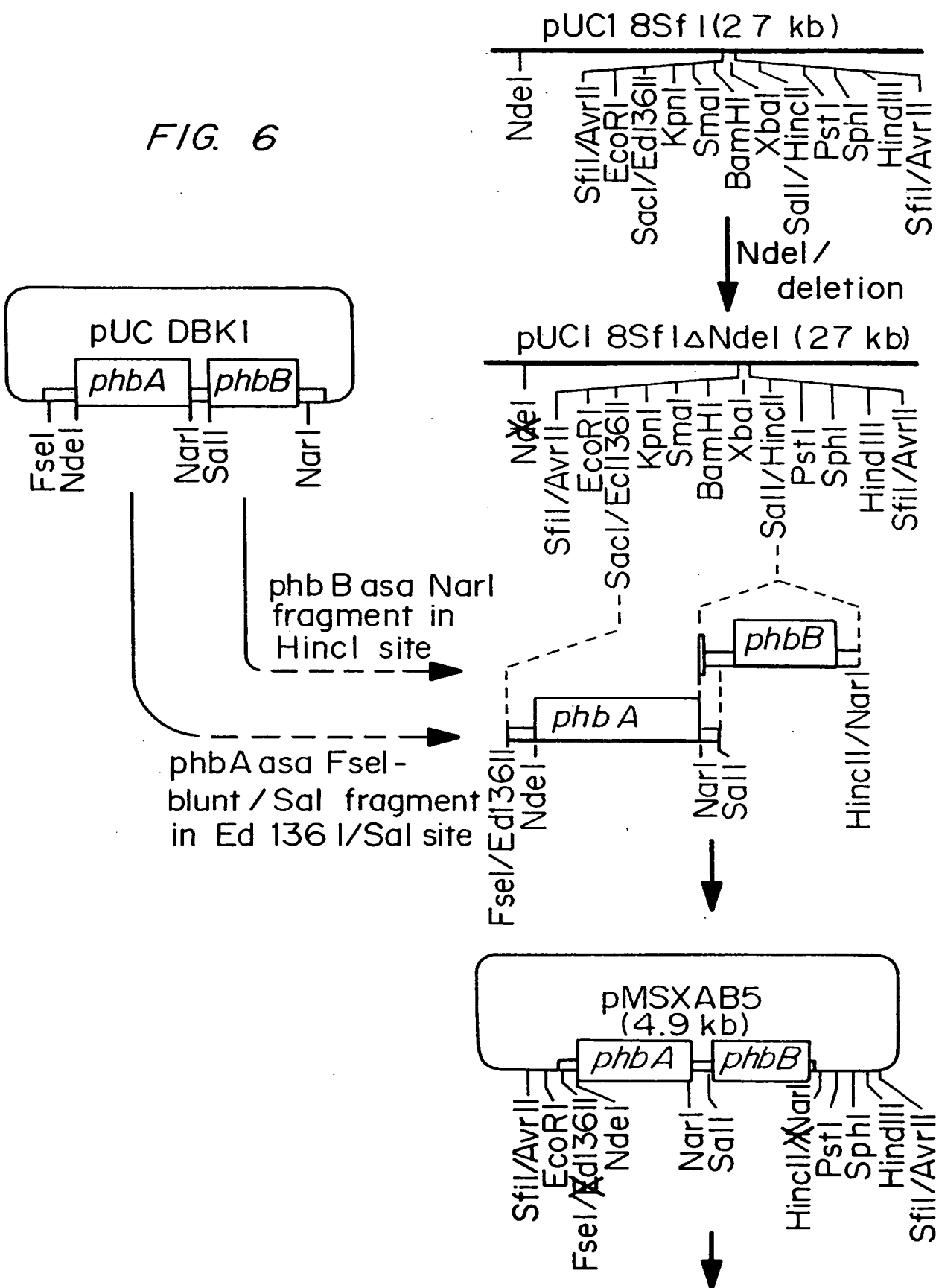
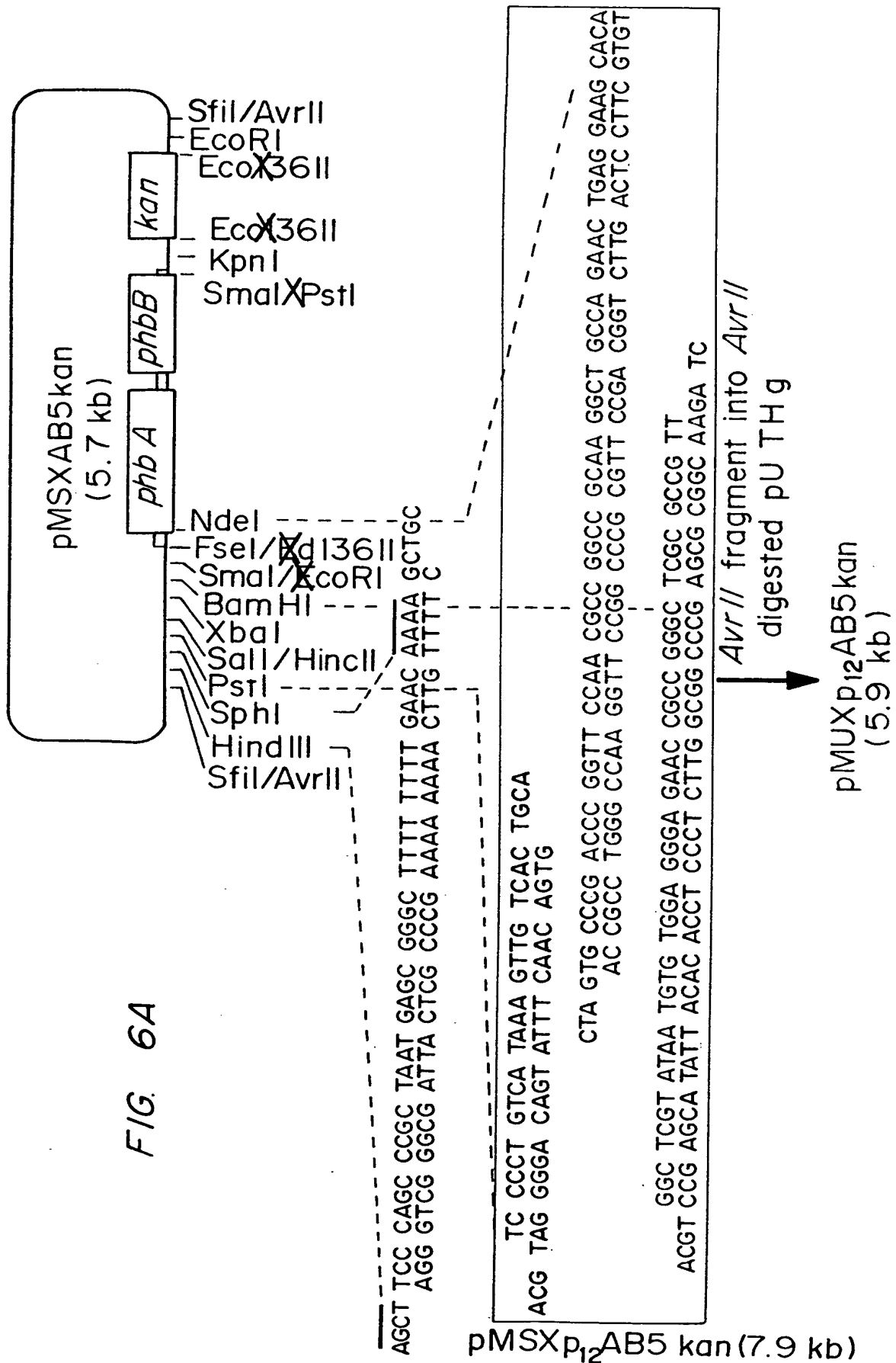


FIG. 6



CONTINUED ON FIG. 6A



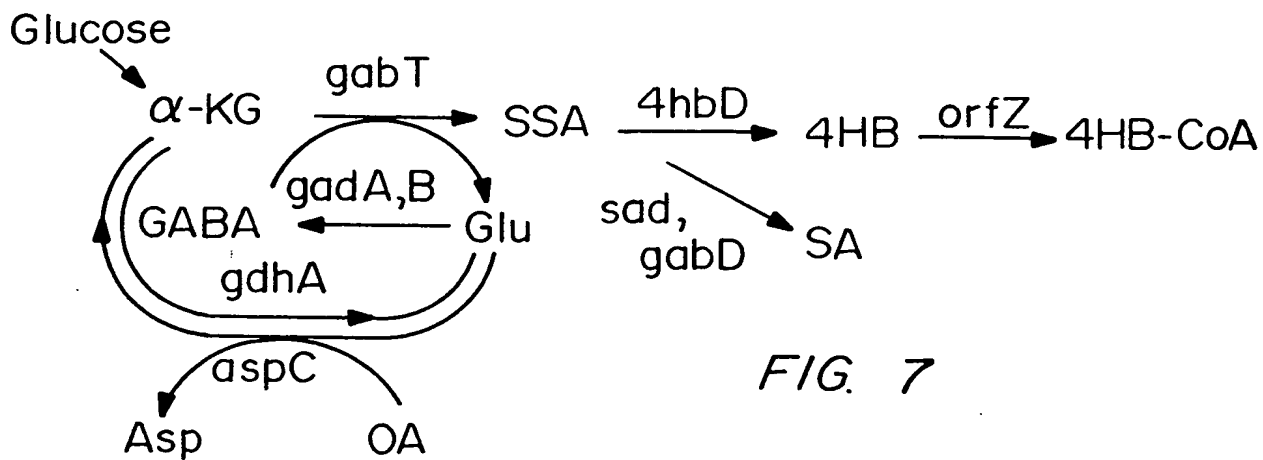
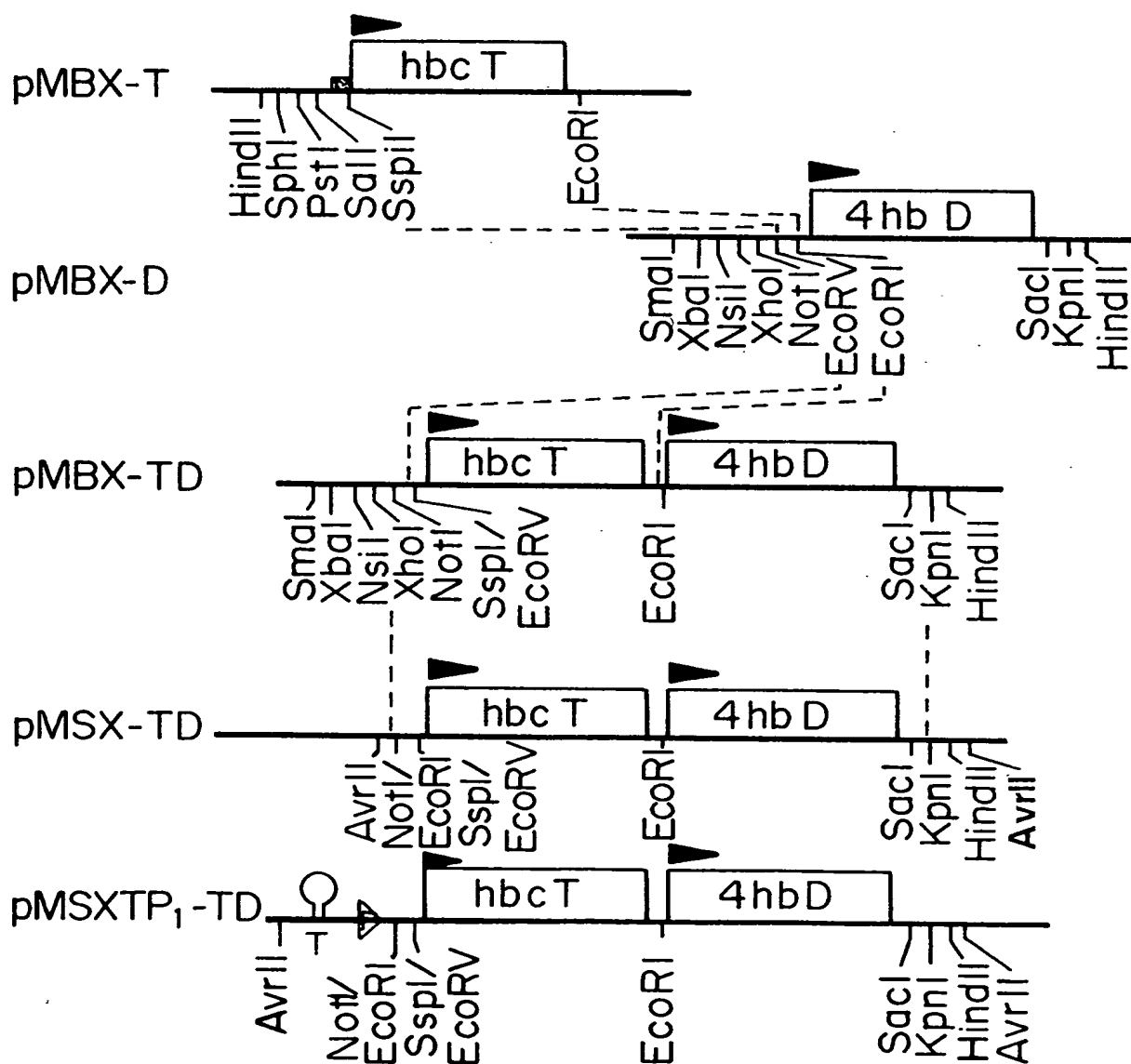


FIG. 7

FIG. 8



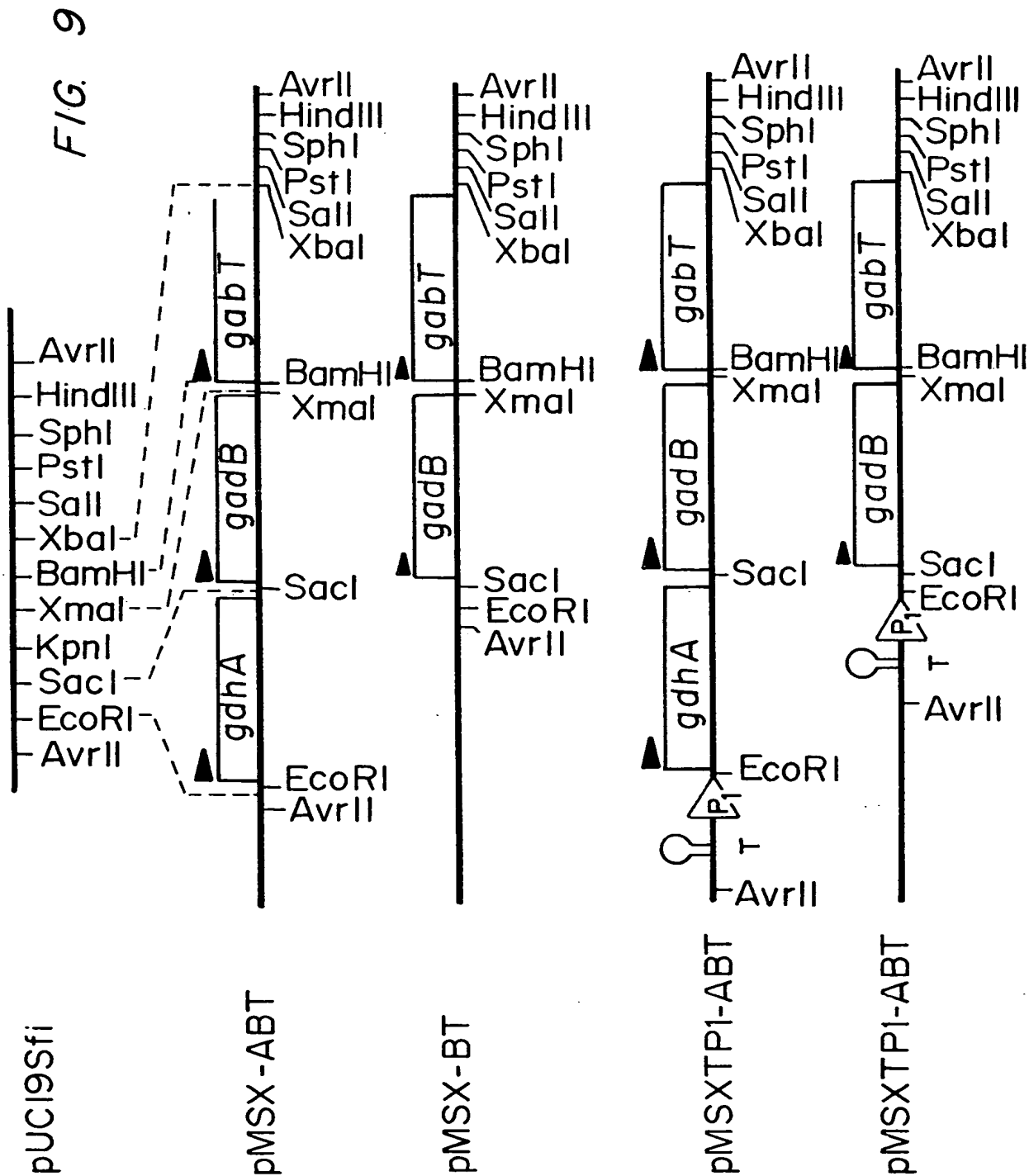


FIG. 10

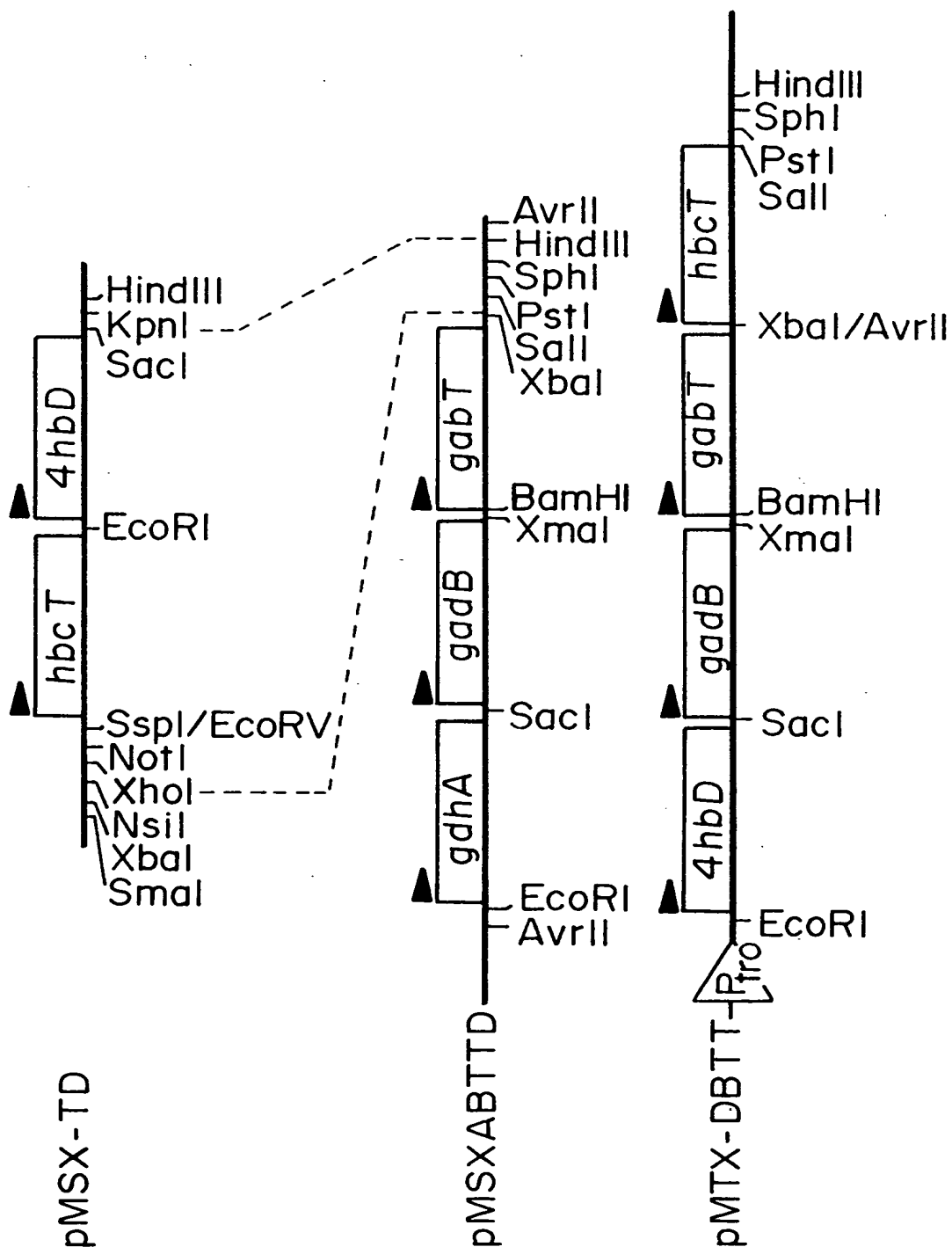


FIG. 11

